**Data dictionary:**

**guadua\_leaf\_raw.xls**

The following variables are to be used:

* Specimen: Specimen collector and number, with species name included
* Country: Country in which the specimen was collected
* Region: Region in which specimen was collected: Mexico, Central America, Andes, or Eastern South America
* Species: Species name
* Habit: Habit typical of species: Small arching, large and erect, or leaning and climbing
* Habitat: Habitat typical of species: Forest, river, or savanna
* General\_habitat: Habitat typical of species, with river and forest categories combined to include savanna or general forest habitats.
* Ab\_papillae\_long\_cells\_stomatal: Abaxial: Simple papillae on the long cells in the stomatal zone 0 = absent 1 = present
* Ab\_papillae\_long\_cells\_interstomatal: Abaxial: Simple papillae on the long cells in the interstomatal zone 0 = absent 1 = present
* Ab\_bifurcated\_papillae\_long\_cells\_stomatal: Abaxial: Bifurcated papillae on the long cells in the stomatal zone: 0 = absent; 1 = present
* Ab\_bifurcated\_papillae\_long\_cells\_interstomatal: Abaxial: Bifurcated papillae on the long cells in the interstomatal zone 0 = absent 1 = present
* Ab\_branch\_papillae\_long\_cells\_stomatal: Abaxial: Branched papillae on the long cells in the stomatal zone: 0 = absent; 1 = present
* Ab\_branch\_papillae\_long\_cells\_interstomatal: Abaxial: Branched papillae on the long cells in the interstomatal zone: 0 = absent; 1 = present
* Ab\_pickle: Abaxial: Prickle hairs: 0 = absent; 1 = present
* Ab\_bimicro: Abaxial: Bicellular microhairs: 0 = absent; 1 = present
* Ab\_macro: Abaxial: Macrohairs: 0 = absent; 1 = present
* Ab\_bilobate\_intercostal: Abaxial: Bilobate silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ab\_ridged\_saddle\_intercostal: Abaxial: ]Ridged saddle-shaped silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ab\_smooth\_saddle\_intercostal: Abaxial: Smooth saddle-shaped silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ab\_vertically\_elongated\_rounded\_intercostal: Abaxial: Vertically elongated (rounded) silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ab\_reniform\_intercostal: Abaxial: Reniform silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ab\_nodular\_intercostal: Abaxial: Nodular silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ab\_bilobate\_costal: Abaxial: Bilobate silica bodies in the costal zone: 0 = absent; 1 = present
* Ab\_ridged\_saddle\_costal: Abaxial: Ridged saddle-shaped silica bodies in the costal zone: 0 = absent; 1 = present
* Ab\_smooth\_saddle\_costal: Abaxial: Smooth saddle-shaped silica bodies in the costal zone: 0 = absent; 1 = present
* Ab\_vertically\_elongated\_rounded\_costal: Abaxial: Vertically elongated (rounded) silica bodies in the costal zone: 0 = absent; 1 = present
* Ab\_reniform\_costal: Abaxial: Reniform silica bodies in the costal zone: 0 = absent; 1 = present
* Ab\_nodular\_costal: Abaxial: Nodular silica bodies in the costal zone: 0 = absent; 1 = present
* Ab\_triangular\_sub\_cells: Abaxial: Triangular stomata subsidiary cells: 0 = absent; 1 = present
* Ab\_dome\_sub\_cells: Abaxial: Dome-shaped stomata subsidiary cells: 0 = absent; 1 = present
* Ab\_parallel\_sub\_cells: Abaxial: Parallel-sided stomata subsidiary cells: 0 = absent; 1 = present
* Ad\_stomata: Adaxial: Stomata on the adaxial surface of foliage leaf blades: 0 = absent; 1 = present.
* Ad\_stomata\_freq: Adaxial: Frequency of stomata if present on the adaxial surface of foliage leaf blades: 0 = common; 1 = infrequent.
* Ad\_papillae\_long\_cells\_stomatal: Adaxial: Simple papillae on the long cells in the stomatal zone exclusive of bulliform cells 0 = absent 1 = present
* Ad\_papillae\_long\_cells\_interstomatal: Adaxial: Simple papillae on the long cells in the interstomatal zone: 0 = absent; 1 = present.
* Ad\_bifurcated\_papillae\_long\_cells\_stomatal: Adaxial: Bifurcated papillae on the long cells in the stomatal zone exclusive of bulliform cells 0 = absent 1 = present
* Ad\_bifurcated\_papillae\_long\_cells\_interstomatal: Adaxial: Bifurcated papillae on the long cells in the interstomatal zone: 0 = absent; 1 = present.
* Ad\_branch\_papillae\_long\_cells\_stomatal: Adaxial: Branched papillae on the long cells in the stomatal zone exclusive of bulliform cells 0 = absent 1 = present
* Ad\_branch\_papillae\_long\_cells\_interstomatal: Adaxial: Branched papillae on the long cells in the interstomatal zone: 0 = absent; 1 = present.
* Ad\_papillae\_overarch: Adaxial: Papillae on long cells of the intercostal zone adjacent to the stomates: 0 = not overarching the stomates; 1 = overarching the stomates.
* Ad\_papillae\_bulliform: Adaxial: Papillae on the bulliform cells: 0 = absent; 1 = present.
* Ad\_pickle: Adaxial: Prickle hairs: 0 = absent; 1 = present
* Ad\_bimicro: Adaxial: Bicellular microhairs: 0 = absent; 1 = present
* Ad\_macro: Adaxial: Macrohairs: 0 = absent; 1 = present
* Ad\_bilobate\_intercostal: Adaxial: Bilobate silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ad\_ridged\_saddle\_intercostal: Adaxial: Ridged saddle-shaped silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ad\_smooth\_saddle\_intercostal: Adaxial: Smooth saddle-shaped silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ad\_vertically\_elongated\_rounded\_intercostal: Adaxial: Vertically elongated (rounded) silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ad\_reniform\_intercostal: Adaxial: Reniform silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ad\_nodular\_intercostal: Adaxial: Nodular silica bodies in the intercostal zone: 0 = absent; 1 = present
* Ad\_bilobate\_costal: Adaxial: Bilobate silica bodies in the costal zone: 0 = absent; 1 = present
* Ad\_ridged\_saddle\_costal: Adaxial: Ridged saddle-shaped silica bodies in the costal zone: 0 = absent; 1 = present
* Ad\_smooth\_saddle\_costal: Adaxial: Smooth saddle-shaped silica bodies in the costal zone: 0 = absent; 1 = present
* Ad\_vertically\_elongated\_rounded\_costal: Adaxial: Vertically elongated (rounded) silica bodies in the costal zone: 0 = absent; 1 = present
* Ad\_reniform\_costal: Adaxial: Reniform silica bodies in the costal zone: 0 = absent; 1 = present
* Ad\_nodular\_costal: Adaxial: Nodular silica bodies in the costal zone: 0 = absent; 1 = present
* Ad\_triangular\_sub\_cells: Adaxial: Triangular stomata subsidiary cells: 0 = absent; 1 = present
* Ad\_dome\_sub\_cells: Adaxial: Dome-shaped stomata subsidiary cells: 0 = absent; 1 = present
* Ad\_parallel\_sub\_cells: Adaxial: Parallel-sided stomata subsidiary cells: 0 = absent; 1 = present